



A Case of Mucosal Fixed Drug Eruption Caused by Tamsulosin Administration

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Fixed drug eruption (FDE) is a rare type of drug reaction that involves the skin and, less commonly, the mucosal membranes. It is characterized by clinically well-defined erythematous patches or plaques with or without blisters, which relapse at the same location if the causative agent is readministered. Tamsulosin is an alpha-1 adrenergic receptor blocker used to treat benign prostatic hyperplasia, and its common side effects are dizziness and headache. Only one case of cutaneous FDE due to tamsulosin administration has been reported but no other case of mucosal involvement has been reported to date. Therefore, we present a case of mucosal FDE caused by tamsulosin administration along with a literature review.

Keywords: Drug eruptions, Tamsulosin

INTRODUCTION

Fixed drug eruption (FDE) is a subtype of drug eruption characterized by recurrent site-specific rash on the skin and/or mucosa if a culpable drug is taken. Studies on mucosal FDE have been limited, but oral FDE has been reported to appear in bullous/erosive, aphthous, or erythematous forms. Medications such as naproxen and trimethoprim-sulfamethoxazole are known to be the most common causative agents, and herpes simplex, erythema multiforme major, and lichen planus should be clinically differentiated¹. FDE caused by tamsulosin administration is quite rare and was reported for the first time in 2020². We experienced a case of FDE in the mucous membrane caused by tamsulosin administration and report it herein with a literature review.

CASE REPORT

A 70-year-old Korean male presented with painful focal erythematous erosive patches on his lower lip (Fig. 1A) and glans penis (Fig. 1B) since 2 weeks. He complained of similar focal erosive patches on the same sites in the past, which improved

2 weeks later without any treatment. He had no specific diseases but had been taking medications for benign prostatic hyperplasia, gastric ulcer, and arthralgia intermittently. On histopathological examination of the lip and penis, epidermal dysplasia, focal liquefaction degeneration of the basal layer, melanin incontinence, red blood cell extravasation, and lympho-eosinophilic infiltrations in the dermis were identified (Fig. 2). A biopsy led to the suspicion of premalignancy owing to epidermal dysplasia, dyskeratosis, and slight mitosis, although the lesions improved with 2 weeks of systemic corticosteroid therapy (Fig. 1C, D). On the basis of the clinical and histological findings, the patient was diagnosed as having FDE on the mucous membrane, and we reviewed the drugs he had taken. He received acetaminophen, tramadol, and loxoprofen for arthralgia, but no association was found between the timing of the drug intake and the onset of skin rash. As the patient had been taking the drugs for a long time, these were unlikely to be the causative agents of FDE. In accordance with the patient's prescription, we found that the lesions developed two days after taking tamsulosin and in the past, it was confirmed that similar lesions occurred just after taking tamsulosin. We advised him on the relationship of his intake of the



drug and skin rash, and then no subsequent relapse occurred until several months later. We received the patient's consent form about publishing all photographic materials.

DISCUSSION

FDE is a disease in which well-demarcated erythematous spots, plaques, or blistering rashes occur after taking the causative drugs and resolves with or without hyperpigmentation. According to a study conducted at a tertiary hospital in Korea that was related to FDE, nonsteroidal anti-inflammatory drugs, acetaminophen (71%), and antibiotics (15.8%) accounted for most of the FDE-causing drugs. FDE lesions are known to occur 0.5 to 8 hours after medication on average and resolve within 3 weeks after discontinuation of the causative agent.

In addition, geographic location, drug availability and dosage, and patient age are factors related to the occurrence of FDE. Clinical history is the most important factor to consider in the diagnosis of FDE, but patch test and drug challenge tests can be used to confirm the diagnosis³. In this case, acetaminophen, loxoprofen, and tramadol were used intermittently to relieve joint pain, but a special association between the development of the lesion and the patient's medication history was difficult to find. As the lesion was located on the mucous membrane, a patch test was difficult to perform. The diagnosis was made on the basis of the fact that the medication was taken and lesions developed, and that after the cessation of the medication, the lesions disappeared.

FDE is clinically known to require differentiation from various diseases such as lichen planus pigmentosus, post-in-



Fig. 1. Focal erythematous erosive patches on his lower lip (A) and glans penis (B) since 2 weeks. The lesions improved with 2 weeks of systemic corticosteroid therapy (C, D).

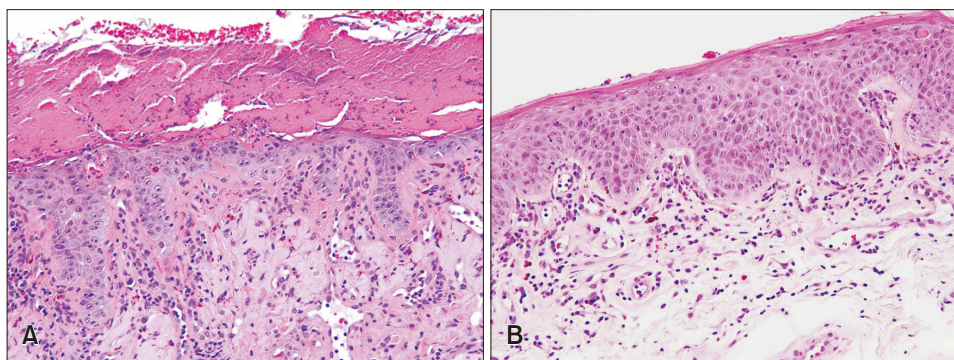


Fig. 2. On histopathological examination of the lip (A) and penis (B), epidermal dysplasia, focal liquefaction degeneration of the basal layer, melanin incontinence, red blood cell extravasation, and lympho-eosinophilic infiltrations in the dermis were identified (A: H&E, $\times 200$; B: H&E, $\times 200$).

flammatory hyperpigmentation, discoid lupus erythematosus, and Steven–Johnson syndrome². In the case of generalized bullous FDE, the size of the lesion may increase even after drug discontinuation, and it is associated with severe reactions that occur when repeated exposure to the causative agent occurs in patients with FDE in the past³. Therefore, awareness of and repeated exposures to the causative agent are important. The culprit agent in this case was tamsulosin, which is known to cause dizziness and headache as its most common side effects, but drug rashes such as photosensitivity have also been reported. And it may have cross reactivity with sulfonamide-based drugs because chemically, they contain a sulfa moiety^{4,5}. Sulfonamide allergy is not mentioned in the tamsulosin package insert information and is not a contraindication, but caution may be required in patients with serious sulfonamide allergy^{2,5}.

FDE was reported as a side effect of tamsulosin administration for the first time in 2020, and this case is considered to have significance in that it occurred in the mucosal region of the lips and genitals, which are rare sites of FDE, unlike in the first case, which occurred in the lower limbs^{2,3}. In the case of acute erythematous patches, plaques, and vesicular rashes with well-defined margins, the possibility of FDE should always be considered. Careful investigation of drug history and objective tests such as patch test and drug challenge tests are needed to determine the causal relationship when various drugs are suspected as causative agents.

CONFLICTS OF INTEREST

The authors have nothing to disclose.

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